DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: KEYSER POND	Lake Area (ha):	8.01
Town: HENNIKER	Maximum depth (m):	5.6
County: Merrimack	Mean depth (m):	3.0
River Basin: Merrimack	Volume (m³):	244000
Latitude: 43°10'45" N	Relative depth:	1.7
Longitude: 71°45'52" W	Shore configuration:	1.10
Elevation (ft): 433	Areal water load (m/yr):	
Shore length (m): 1100		3.50
Watershed area (ha): 185		0.54
<pre>% watershed ponded: 9</pre>	.5 Lake type: n	atural

BIOLOGICAL:	15 January 1998	25 June 1997
DOM. PHYTOPLANKTON (% TOTAL) #3	DINOBRYON 75%	CHRYSOSPHAERELLA 40%
#2	ASTERIONELLA 20%	SYNEDRA 25%
#:	3	TINY PENNATE DIATOM 13%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		8.44
DOM. ZOOPLANKTON (% TOTAL) #:	KERATELLA 47%	KERATELLA 47%
#2	CYCLOPOID COPEPOD 15%	KELLICOTTIA 9%
#:	NAUPLIUS LARVA 8%	
ROTIFERS/LITER	256	594
MICROCRUSTACEA/LITER	101	103
ZOOPLANKTON ABUNDANCE (#/L)	365	726
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		2.5
BOTTOM DISSOLVED OXYGEN (mg/L)	6.3	0.3
BACTERIA (E. coli, #/100 ml) #		
#:	2	
#.	В	

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 2.6 Hypolimnion volume (m^3) : 1000 Anoxic volume (m^3) : 2750

CHEMICAL:			KEYSER PO	OND	3
	15 Janua	ary 1998	25 3	June 1997	
DEPTH (m)	2.0	4.0	2.0		4.5
pH (units)	6.2	6.0	6.7		6.5
A.N.C. (Alkalinity)	7.2	7.5	7.0		7.2
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.40	0.50	0.30		0.30
TOTAL PHOSPHORUS	0.013	0.010	0.015		0.024
CONDUCTIVITY (µmhos/cm)	101.0	105.7	101.0		100.0
APPARENT COLOR (cpu)	28	32	21		32
MAGNESIUM			1.00		
CALCIUM			4.6		
SODIUM			12.5		
POTASSIUM			1.20		
CHLORIDE	22	22	21		21
SULFATE	5	5	5		5
TN : TP	31	50	20		13
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1997

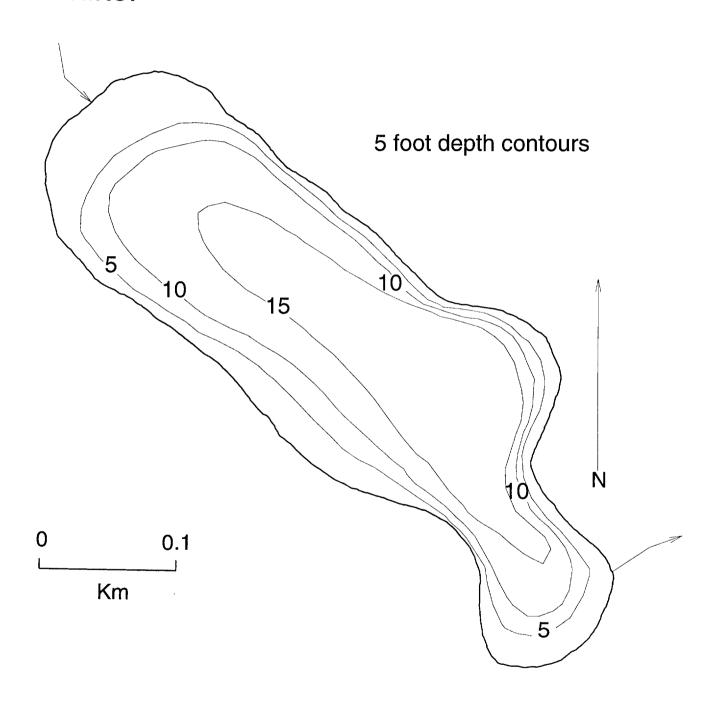
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	3	3	2	12	Meso.

COMMENTS:

- 1. This pond was previously surveyed in 1984 and was classified eutrophic at that time. A bloom of the blue-green alga *Anabaena* was present in 1984, resulting in a chlorophyll of 130 mg/m³ and a transparency of less than one foot.
- 2. A diagnostic study of Keyser Pond was conducted in 1986-87. It was borderline mesotrophic/eutrophic at that time (similar to 1997) with trophic data similar to the 1997 data. (Note: an algae bloom did occur again during the summer of 1998).
- 3. Conductivity, sodium and chloride were moderately elevated, suggesting some salt runoff from the nearby highway.
- 4. Anabaena was observed but in very low numbers in 1997. The zooplankton were abundant, demonstrating that the primary productivity was moving up the food chain.

Keyser Pond

Henniker



FIELD DATA SHEET

TOWN: HENNIKER

LAKE: KEYSER POND

DATE: 06/25/97 WEATHER: SUNNY

DATE: 06/25/9/	WEAT	HER: SUNNY	
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	23.9	9.0	103 %
1.0	23.3	9.0	105 %
2.0	22.8	8.7	98 %
3.0	18.1	11.6	121 %
4.0	14.8	9.1	88 %
5.0	12.3	0.2	1 %
5.5	11.6	0.3	2 %
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SECCHI DISK (m): 2.5 COMMENTS:

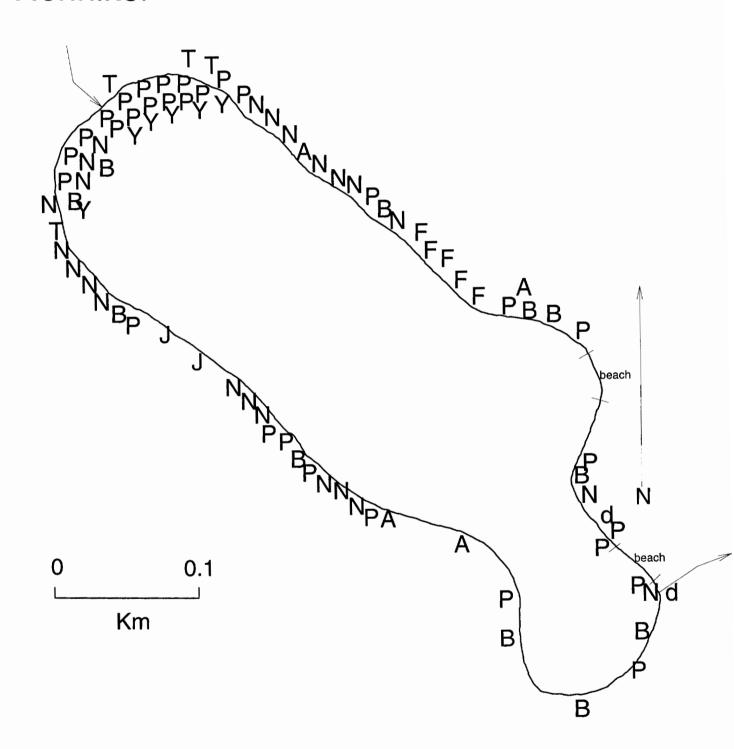
BOTTOM DEPTH (m): 5.6

TIME: 1035

*Dissolved oxygen values are in mg/L

Keyser Pond

Henniker



AQUATIC PLANT SURVEY

LAK	E: KEYSER POND	TOWN: HENNIKER	DATE: 06/25/97
Кеу		PLANT NAME	ABUNDANCE
	GENERIC	COMMON	ADONDANCE
P	Pontederia cordata	Pickerelweed	Common
В	Brasenia schreberi	Water shield	Scattered
N	Nymphaea	White water lily	Common
Y	Nuphar	Yellow water lily	Scattered
d	Dulichium arundinaceum	Three-way sedge	Sparse
A	Sagittaria	Arrowhead	Scattered
J	Juncus	Rush	Sparse
T	Typha	Cattail	Sparse
F	Nymphoides cordatum	Floating heart	Scattered
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		7817-7818-8818-8818-8818-8818-8818-8818	

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS:

1. A wetland and abundant plants were located at the inlet end.

2. Bladderwort was brought up on an anchor drag. It may be common along the bottom but, due to colored water and pollen, the visibility was poor and the abundance of the plant could not be determined. It is not listed above and was not part of the overall abundance rating.